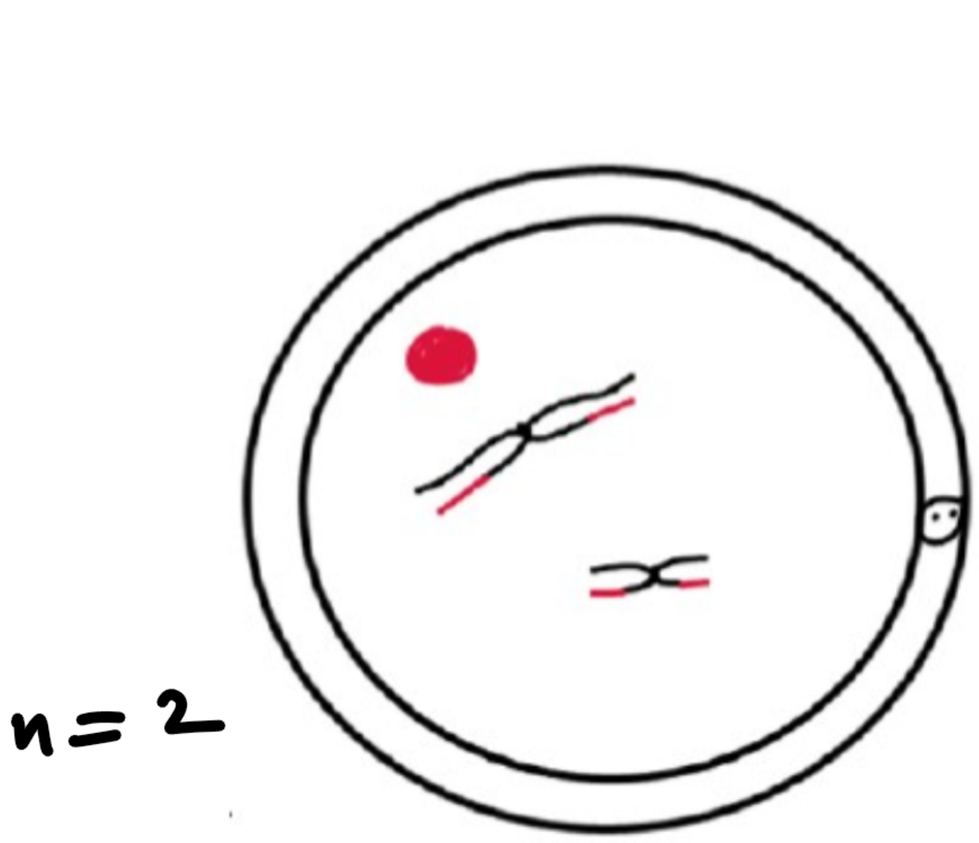
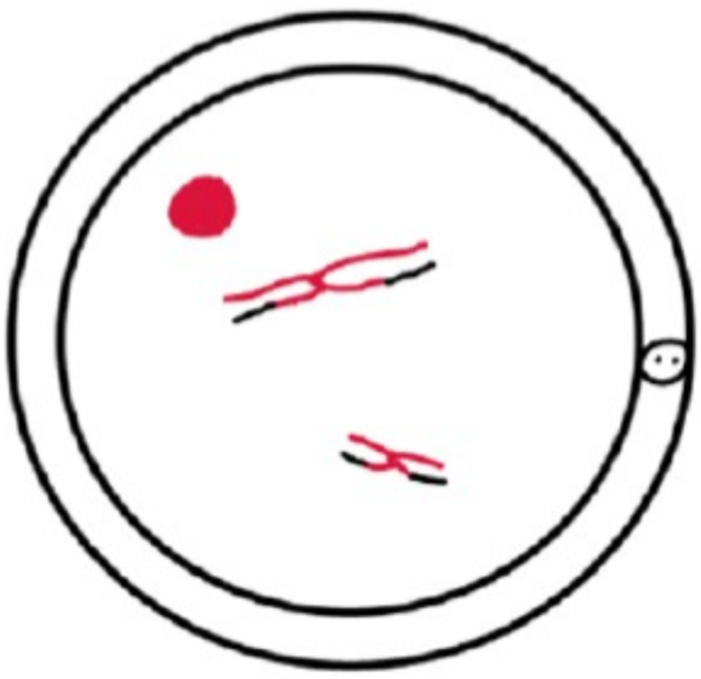
TELOPHASE - I

→ Nuclear envelope and nucleolus reappear

→ Each nucleus has haploid number of chromosomes. Each chromosome is with two chromatids

CYTOKINESIS - I





→ Cytokensis produces two haploid cells (Dyad of cells).

→ Each chromosome posses two chromatids

→ Although in many cases the chromosomes do undergo some dispersion but they do not reach the extremely extended state of interphase nucleus.

INTERKINESIS / INTRAMEIOTIC INTERPHASE

→ It is a stage b/w Meiosis-I and Meiosis-II, is metabolically active phase, short.

→ RNA and protein synthesis occurs

→ In animal cells, centriolar duplication occurs

→ There is no DNA replication.

MEIOSIS – II

→ It is just like mitosis but initiates in a haploid cell.

PROPHASE - II

→ Each chromosome has two chromatids

METAPHASE - II

→ Single equatorial plate is formed

→ Each chromosome has two chromatids

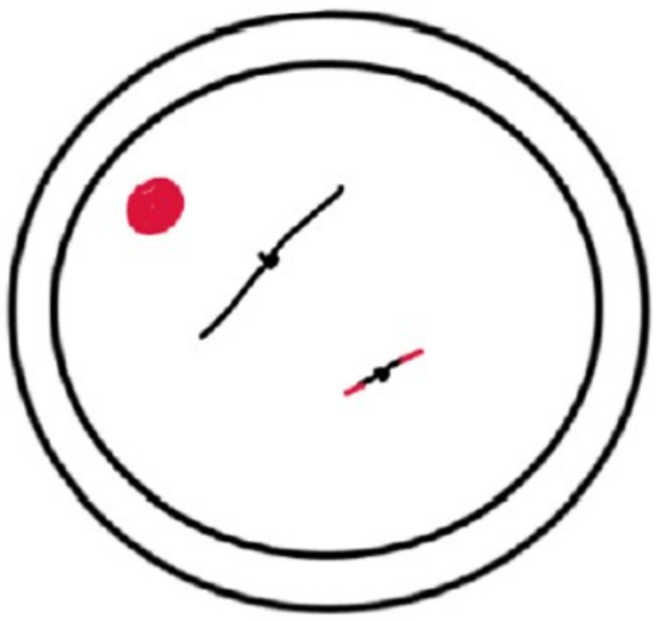
ANAPHASE - II

→ Each chromosome has one chromatid (Due to splitting of centromere).

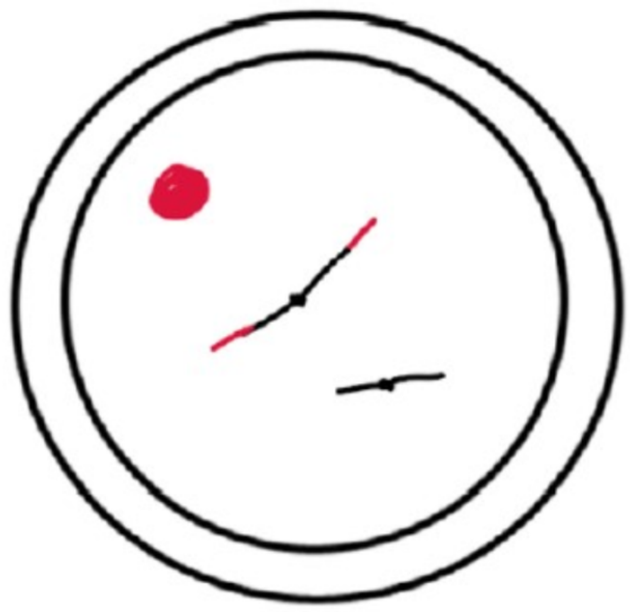
TELOPHASE - II

→ Each chromosome possess one chromatid.

CYTOKINESIS - II

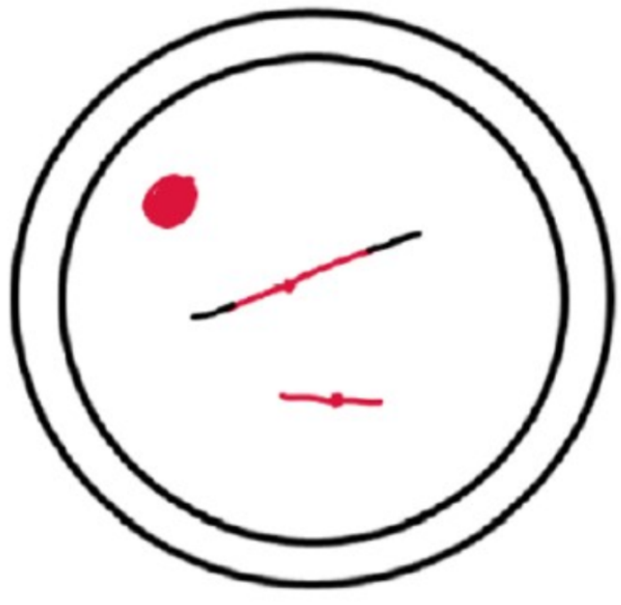


n = 2



n = 2

n = 2



n = 2

→ As a result of cytokines, four haploid cells are formed (Tetrad of cells).

→ Each possess one chromatid.

H/w → Significance of meiosis
Diff. b/w mitosis & meiosis

No. of cytokinesis :

(i) In a complete meiotic cell division = 1

(ii) In a complete meiotic cell division = 3

⊛ # Total no. of meiotic divisions required to produce 'n' no. of seeds = $n + \frac{n}{4}$

Total no. of meiotic divisions required to produce 'n' no. of seeds in Cyperaceae family = $n + n$

1 PMC (or MMC) → MEIOSIS → 4 pollens (or microspores)

1 MaMC → MEIOSIS → 4 megaspores (3 degenerates + 1 is viable).

...

Summary of meiotic cell division for a human meiocyte (eg. primary spermatocyte or primary oocyte, 2n = 46)

Properties	G_1	S	G_2	P_I	M_I	A_I (each pole)	T_I (each pole)	CK_I (each daughter cell)	P_{II}	M_{II}	A_{II} (each pole)	T_{II} (each pole)	CK_{II} (each daughter cell)
No. of chromosomes	46	46	46	46	46	23	23	23	23	23	23	23	23
No. of chromatids	46	92	92	92	92	46	46	46	46	46	23	23	23
No. of dsDNA molecule	46	92	92	92	92	46	46	46	46	46	23	23	23
DNA content	2C	4C	4C	4C	4C	2C	2C	2C	2C	2C	1C	1C	1C

for a sperm or an ovum